# Rocky Flats Environmental Technology Site

# RECONNAISSANCE LEVEL CHARACTERIZATION

# RADIOLOGICAL CHARACTERIZATION PLAN

# B559 CLUSTER CLOSURE PROJECT (B562, B563, and B564)

## REVISION 0

## October 22, 2001

**Prepared by:** _____ Date:_____
Jeff Ambrose, Radiological Engineer

**Reviewed by:** _____ Date:_____
Duane Parsons, Facility Characterization Coordinator

**Reviewed by:** _____ Date:_____
Paul Miles, Quality Assurance

**Approved by:** _____ Date:_____
Bob Richardella, Closure Project Facility Manager

## Radiological Characterization Plan
## B559 Cluster (B562, B563, and B564)

**Notes and Assumptions:**

- This characterization Plan was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols (07/26/00), and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities (02/14/01).
- PDSP Data Quality Objectives were used to develop this characterization plan.

**Instructions:**

1. Verify characterization activities are on the Plan-of-the-Day (POD).
2. Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual.
3. Verify personnel have appropriate training for the applicable tasks they will be performing.
4. Comply with RWP requirements, if applicable.
5. Comply with JHA and facility PPE requirements, as applicable.
6. Inform the Facility Manager, or designee prior to starting characterization activities.
7. Follow applicable characterization and sampling procedures.
8. Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs.
9. Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal.
10. Collect and maintain all characterization paperwork in the Project File(s).
11. All radiological surveys shall be conducted in accordance with the sampling and instruction forms included in B559 Cluster Survey Package numbers 562-A-001, 563-A-001, and 564-A-001. Sample locations are denoted on scaled maps attached to each survey package.

# Radiological Characterization Plan
## B559 Cluster (B562, B563, and B564)

### Non-Impacted Areas

| Survey Area | Survey Unit | Class | Description | Total $m^2$ | Floor $m^2$ | Scan $m^2$ | TSA | Smears | Media | Class Justification |
|---|---|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | No Non-Impacted Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification. |
| | | | **Non-Impacted Totals** | 0 | 0 | 0 | 0 | 0 | 0 | |

### Class 1 Areas

| Survey Area | Survey Unit | Class | Description | Total $m^2$ | Floor $m^2$ | Scan $m^2$ | TSA | Smears | Media | Class Justification |
|---|---|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | No Class 1 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification. |
| | | | **Class 1 Totals** | 0 | 0 | 0 | 0 | 0 | 0 | |

### Class 2 Areas

| Survey Area | Survey Unit | Class | Description | Total $m^2$ | Floor $m^2$ | Scan $m^2$ | TSA | Smears | Media | Class Justification |
|---|---|---|---|---|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | No Class 2 Areas identified in this characterization unit. Historical Site Assessment and process knowledge indicate no need for this classification. |
| | | | **Class 2 Totals** | 0 | 0 | 0 | 0 | 0 | 0 | |

3

## Radiological Characterization Plan
## B559 Cluster (B562, B563, and B564)

**Class 3 Areas**

| Survey Area | Survey Unit | Class | Description | Total $m^2$ | Floor $m^2$ | Scan $m^2$ | TSA | Smears | Media | Class Justification |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 562-A-001 | 3 | Interior & Exterior of B562 | 290<br><br>153 - Interior<br><br>137- Exterior | 32 | <br><br>8 - Interior<br><br>7 - Exterior | 15-random<br>15-biased<br>2-QC | 15-random<br>15-biased | 0 | Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan on interior and exterior surfaces will be biased towards areas of greatest potential for contamination. Scan percentages are justified due to the historical process knowledge of the facility and exterior characterization results of surrounding facilities. Additional biased measurements have been prescribed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP and will not be used in any statistical analysis (i.e., MARSSIM Sign Test). |
| A | 563-A-001 | 3 | B563 | 330 | 80 | 17 | 15-random<br>2-QC | 15-random | 0 | Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan on exterior surfaces will be biased towards areas of greatest potential for contamination. Scan percentages are justified due to the historical process knowledge of the facility and exterior characterization results of surrounding facilities.<br><br>Due to the inaccessibility of the interior surfaces of B563, 15 additional biased TSA and Smear measurements will be obtained during the demolition phase using the Waste Release Evaluation process. |

Biased measurement locations include high traffic areas such as building entrances, exits, and hallways; HVAC intakes and exhaust ducts; storage areas; areas of frequent personnel contact such as doors and door frames; and horizontal surfaces.

4

## Radiological Characterization Plan
## B559 Cluster (B562, B563, and B564)

**Class 3 Areas**

| Survey Area | Survey Unit | Class | Description | Total $m^2$ | Floor $m^2$ | Scan $m^2$ | TSA | Smears | Media | Class Justification |
|---|---|---|---|---|---|---|---|---|---|---|
| A | 564-A-001 | 3 | Interior & Exterior of B564 | 1460<br>896 - Interior<br>564 - Exterior | 259 | 45 - Interior<br>23 - Exterior | 15-random<br>15-biased<br>2-QC | 15-random<br>15-biased | 0 | Areas are not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A 5% scan on interior surfaces and exterior surfaces will be biased towards areas of greatest potential for contamination. Scan percentages are justified due to the historical process knowledge of the facility and exterior characterization results of surrounding facilities. Additional biased measurements have been prescribed and will be collected to ensure uniform coverage of all building surfaces. These additional biased measurements are above and beyond requirements set forth in the RFETS PDSP and will not be used in any statistical analysis (i.e., MARSSIM Sign Test). |
| | | | **Class 3 Totals** | **2080** | **371** | **62** | **90** | **90** | **0** | |
| **All Class Areas** | | | **All Class Totals** | **2080** | **371** | **62** | **90** | **90** | **0** | |

* Biased measurement locations include high traffic areas such as building entrances, exits, and hallways; HVAC intakes and exhaust ducts; storage areas; areas of frequent personnel contact such as doors and door frames; and horizontal surfaces.

5/5